Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Amended) A heart positioning device for moving a heart to a non-physiological orientation comprising:

a ~~resiliently flexible~~ suction head comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue on the surface of the heart, the suction head having a vacuum passageway in fluid communication with the suction head to apply suction between the suction head and the target tissue on the surface of the heart;

a shaft having a vacuum lumen extending therethrough, the shaft coupled at a distal end to the suction head by a movable joint;

a handle coupled to a proximal end of the shaft for remote manipulation of the position of the suction head to effect movement of the heart to a non-physiological orientation; and

means on a proximal portion of the heart positioning device for remotely ~~changing the position of the head~~ bending the movable joint from a first position in which the suction head is axially aligned with the shaft to a second, ~~unaligned~~ position in which the suction head is axially unaligned with the shaft.

2. (Amended) A heart positioning device according to claim 1 wherein the suction head includes at least three resilient ~~legs~~ lobes in fluid communication with the vacuum passageway.

3. (Original) A heart positioning device according to claim 1 wherein the suction head is resiliently compressible from a first, uncompressed condition, to a second, compressed condition upon application of a constraint.

4. (Amended) A heart positioning device according to claim 3 wherein the suction head is adapted at its second, compressed condition for slideable introduction of the compressed suction head through a port.

5. (Amended) A heart positioning device according to claim 3 wherein the suction head in its compressed condition is adapted to resiliently return to the first, uncompressed condition upon release of the constraint.

6. (Amended) A heart positioning device according to claim 1 wherein the means for remotely ~~changing the position of the head~~ bending the movable joint comprises a ~~pull~~ wire.

7. (Canceled)

8. (Canceled)

9. (Amended) A heart positioning device according to claim ~~8~~ 6 wherein the means ~~to return the head~~ for bending the movable joint comprises spring means.

10. (Amended) A heart positioning device according to claim 1 further comprising means for locking the position of the ~~head~~ movable joint in the second, ~~unaligned~~ position.

11. (Amended) A heart positioning device according to claim 1 wherein the second~~, unaligned~~ position is about 90 degrees from the first~~, axially aligned~~ position.

12. (Amended) A heart positioning device for moving a heart to a non-physiological orientation comprising:

a ~~resiliently flexible~~ suction head having at least three lobes comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue

on the surface of the heart, the suction head having a vacuum passageway in fluid communication with the head to apply suction between the suction head and the surface of the heart;

a shaft having a vacuum lumen extending therethrough, the shaft coupled at a distal end to the suction head;

a handle coupled to a proximal end of the shaft for remote manipulation of the position of the suction head to effect movement of the heart to a non-physiological orientation; and

a sleeve slideably positioned on the shaft and sized to receive the suction head in a compressed condition such that the sleeve may be slideably advanced over the shaft to capture the suction head at the distal end thereof by allowing the lobes to be drawn against one another and also slideably released from capture with the sleeve by advancing the suction head distally from the sleeve such that the suction head resiliently returns to an uncompressed condition.

13. (Canceled)

14. (Amended) A heart positioning device according to claim ~~13~~ 12 wherein the suction head is adapted at its compressed condition for slideable introduction of the compressed suction head through a port.

15. (Canceled)

16. (Original) A heart positioning device according to claim 12 wherein the positioning device includes a retaining member for retaining the sleeve in a proximal position on the shaft.

17. (Original) A heart positioning device according to claim 12 wherein the sleeve is adapted for use as a port extending within an incision into a chest cavity of a patient.

18. (Original) A heart positioning device according to claim 12 wherein the sleeve is adapted to capture the suction head when the suction head is axially aligned with the shaft.

19. (Amended) A heart positioning device for moving a heart to a non-physiological orientation comprising:

a ~~resiliently flexible~~ suction head having at least three lobes comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue on the surface of the heart, the suction head having a vacuum passageway in fluid communication with the suction head to apply suction between the suction head and the surface of the heart;

a shaft having a vacuum lumen extending therethrough, the shaft coupled at a distal end to the suction head;

a handle coupled to a proximal end of the shaft for remote manipulation of the position of the suction head to effect movement of the heart to a non-physiological orientation; ~~and~~

a sleeve slideably positioned on the shaft such that the suction head may be advanced or retracted with respect to the sleeve by manipulation of the handle; and

a retaining member for retaining the sleeve in a proximal position on the shaft.

20. (Canceled)

21. (Canceled)

22. (Original) A heart positioning device according to claim 19 wherein the sleeve is adapted for use as a port extending within an incision into a chest cavity of a patient.

23. (Amended) A method of performing a surgical procedure on a heart, comprising:

providing a heart positioning device having a ~~resiliently flexible~~ suction head comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue on the surface of the heart, the suction head having a vacuum passageway in fluid communication with the suction head to apply suction between the suction head and the surface of the heart, a shaft having a vacuum lumen extending therethrough coupled at a distal end to the suction head by a movable joint and a handle coupled to a proximal end of the shaft;

introducing the suction head of the positioning device into a chest cavity of a patient through an incision by resiliently compressing the suction head from a first, uncompressed condition, to a second, compressed condition;

remotely changing the position of the suction head from a first position axially aligned with the shaft to a second, unaligned position by manipulating the movable joint from outside the chest cavity of the patient while the suction head is within the chest cavity;

engaging the heart with the suction head;

positioning the heart into a non-physiological orientation; and

performing a surgical procedure on the heart.

24. (Amended) A method according to claim 23 wherein ~~engaging the heart with~~ introducing the suction head includes ~~engaging the heart with~~ compressing at least three resilient ~~legs~~ lobes of the suction head such that the lobes are drawn against one another.

25. (Canceled)

26. (Amended) A method according to claim ~~25~~ 23 wherein the suction head is introduced into the chest cavity of the patient by slideably introducing it through a port.

27. (Amended) A method according to claim 23 wherein the ~~position of the head~~ movable joint is remotely ~~changed~~ manipulated by activating a ~~pull~~ wire.

28. (Canceled)

29. (Amended) A method according to claim 23 wherein the ~~position of the head~~ movable joint is remotely ~~changed~~ manipulated from a control on the handle.

30. (Amended) A method according to claim 23 further comprising returning the head from the second, unaligned position toward the first, axially aligned position and removing the suction head from the chest cavity through the incision.

31. (Original) A method according to claim 23 further comprising securing the position of the heart positioning device prior to the surgical procedure and releasing the position of the heart positioning device after the procedure.

32. (Original) A method according to claim 31 wherein securing the position of the heart positioning device is accomplished by clamping the heart positioning device to an arm.

33. (Original) A method according to claim 31 wherein securing the position of the heart positioning device is accomplished by actuating an arm attached to the heart positioning device to render the arm rigid.

34. (Amended) A method of performing a surgical procedure on a heart, comprising:

providing a heart positioning device having a ~~resiliently flexible~~ suction head comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue on the surface of the heart, the suction head having a vacuum passageway in fluid communication with the suction head to apply suction between the suction head and the surface of the heart, a shaft having a vacuum lumen extending

therethrough coupled at a distal end to the suction head, a handle coupled to a proximal end of the shaft and a sleeve slideably positioned on the shaft;

advancing the sleeve along the shaft to receive the suction head in a compressed condition;

introducing the sleeve and compressed suction head of the positioning device into an incision extending into a chest cavity of a patient;

advancing the suction head from the sleeve such that it achieves an uncompressed condition;

engaging the heart with the suction head;

positioning the heart into a non-physiological orientation; and performing a surgical procedure on the heart.

35. (Amended) A method according to claim 34 wherein engaging the heart with the suction head includes engaging the heart with at least three resilient ~~legs~~ lobes of the suction head.

36. (Original) A method according to claim 34 wherein positioning of the heart is accomplished by remotely manipulating the suction head by moving the handle.

37. (Original) A method according to claim 34 further comprising securing the position of the heart positioning device prior to the surgical procedure and releasing the position of the heart positioning device after the procedure.

38. (Original) A method according to claim 37 wherein securing the position of the heart positioning device is accomplished by clamping the heart positioning device to an arm.

39. (Original) A method according to claim 37 wherein securing the position of the heart positioning device is accomplished by actuating an arm attached to the heart positioning device to render the arm rigid.

40. (Amended) A method of performing a surgical procedure on a heart, comprising:

providing a heart positioning device having a ~~resiliently flexible~~ suction head comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue on the surface of the heart, the suction head having a vacuum passageway in fluid communication with the suction head to apply suction between the suction head and the surface of the heart, a shaft having a vacuum lumen extending therethrough coupled at a distal end to the suction head, a handle coupled to a proximal end of the shaft and a sleeve slideably positioned on the shaft;

advancing the sleeve long the shaft to receive the suction head in a compressed condition;

introducing the sleeve and compressed suction head of the positioning device at least partially into a port extending into a chest cavity of a patient;

advancing the suction head from the sleeve into the port and into the chest cavity such that it achieves an uncompressed condition;

engaging the heart with the positioning device;

positioning the heart into a non-physiological orientation; and

performing a surgical procedure on the heart.

41. (Amended) A method according to claim 40 wherein engaging the heart with the suction head includes engaging the heart with at least three resilient ~~legs~~ lobes of the suction head.

42. (Original) A method according to claim 40 wherein positioning of the heart is accomplished by remotely manipulating the suction head by moving the handle.

43. (Original) A method according to claim 40 further comprising securing the position of the heart positioning device prior to the surgical procedure and releasing the position of the heart positioning device after the procedure.

44. (Original) A method according to claim 43 wherein securing the position of the heart positioning device is accomplished by clamping the heart positioning device to an arm.

45. (Original) A method according to claim 43 wherein securing the position of the heart positioning device is accomplished by actuating an arm attached to the heart positioning device to render the arm rigid.

46. (Amended) A system for performing a medical procedure comprising:

a ~~resiliently flexible~~ suction head comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue on the surface of ~~the~~ a heart, the suction head having a vacuum passageway in fluid communication with the suction head to apply suction between the suction head and the surface of the heart; a shaft having a vacuum lumen extending therethrough, the shaft coupled at a distal end by a movable joint to the suction head such that the suction head can be ~~remotely~~ moved from a first position axially aligned with the shaft to a second, unaligned position by manipulating a control which is remote from the suction head to effect bending of the movable joint; a handle coupled to a proximal end of the shaft for remote manipulation of the position of the suction head to effect movement of the heart to a non-physiological orientation;

a port adapted to receive the suction head with the suction head in a compressed condition when the suction head is in the first, axially aligned condition; and

a suction source in fluid communication with the heart positioning device.

47. (Amended) A system for performing a medical procedure comprising:

a ~~resiliently flexible~~ suction head having at least three lobes comprising a flexible, resilient material that may be compressed and resiliently return to its original shape and ~~that flexes to~~ may flex to permit the suction head to engage and conform to a target tissue on the surface of ~~the~~ a heart, the suction head having a vacuum passageway in fluid communication with the suction head to apply suction between the suction head and the

surface of the heart; a shaft having a vacuum lumen extending therethrough, the shaft coupled at a distal end to the suction head, a handle coupled to a proximal end of the shaft for remote manipulation of the position of the suction head to effect movement of the heart to a non-physiological orientation and a sleeve slideably positioned on the shaft and sized to receive the suction head in a compressed condition such that the sleeve may be slideably advanced over the shaft to capture the suction head at the distal end thereof;

a port adapted to receive at least a portion of the sleeve and the suction head with the suction head in a compressed condition within the sleeve with the lobes drawn against one another; and

a suction source in fluid communication with the heart positioning device.